



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------------|------------------|
| 10/085,943 | 02/28/2002 | Kazuhiko Yamanouchi | 08440.003001 | 4362 |
| 22511 | 7590 | 12/11/2003 | | |
| ROSENTHAL & OSHA L.L.P. 1221 MCKINNEY AVENUE SUITE 2800 HOUSTON, TX 77010 | | | EXAMINER BUDD, MARK OSBORNE | |
| | | | ART UNIT 2834 | PAPER NUMBER |

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/085,943 | YAMANOUCI, KAZUHIKO | |
| | Examiner | Art Unit | |
| | Mark Budd | 2834 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2834

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-5, 7-9, 12 and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by Kadota.

Kadota teaches a LiNbO_3 substrate with a SiO_2 cover layer. The cut of the Lithium Niobate Substrate is Y-cut 0 to 30 degrees. The H/λ ratio is 0.01 to 0.2. Regarding claims 4, 5 and 14 these parameters are inherent in the cut angles and H/λ ratios shown by Kadota.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadota.

Kadota teaches the SAW device except the specific cut angle and H/λ values are marginally outside those explicitly taught by Kadota. However, it has long been held that optimization of a known device (e.g. thru routine experimentation) is within the skill expected of the routineer. Thus to provide the specific claimed values would have been obvious to one of ordinary skill in the art.

Art Unit: 2834


Claims 11, 13 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida in view of Kadota.

Yoshida (figs. 12 and 14) teaches a SAW device including input/output electrodes and reflective gratings (shorted electrodes). A Y-cut 55-57 degree Lithium Niobate substrate is used. Kadota teaches the efficiency of a SAW device can be improved by using a 0 to 30 degree Y-cut Lithium Niobate substrate having an overlay of SiO₂ and an H/lambda ratio of 0.01 to 0.2. Since selection from among known materials has long been held to be within the skill expected of the routineer, it would have been obvious to one of ordinary skill in the art to substitute the specific SAW materials of Kudota into the device of Yoshida. Conversely, extending the teaching of Kudota to any specific known SAW structure to upgrade the efficiency in a known predictable manner would have been obvious to one of ordinary skill in the art.

Further cited of interest are Tanaka, Shimizu and Cullen.

Budd/ek

11/28/03


MARK O. BUDD
PRIMARY EXAMINER
ART UNIT 2834